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CLAIMS

1. A girdle for surrounding a plurality of chordae tendinae
5 comprising:
a filamentous body comprising a shape memory material to
allow a transition between a linear delivery configuration and an annular
treatment configuration.
- 10 2. The girdle of claim 1 wherein the shape memory material is a
material chosen from a group consisting of: a nitinol alloy, a stainless steel, a
cobalt-based alloy, an MP35N® alloy, an Elgiloy® alloy, an engineering
plastic, an amide, a polyimide, a polyolefin, a polyester, a urethane, a
thermoplastic, a thermoset plastic, and a blend, a laminate and a copolymer
15 of the above materials.
3. The girdle of claim 1 wherein the annular treatment
configuration of the girdle has a shape selected from a group consisting of: a
ring, a hollow conical frustum, a hollow cylinder, a hollow hourglass, an open
20 coil, a closed coil, and a combination of the above shapes.
4. A system for treating a heart valve comprising:
an elongate delivery catheter having a lumen; and
a girdle having an annular treatment configuration sized and
25 shaped to surround a plurality of chordae tendinae of the heart valve, the
girdle having a linear delivery configuration sized and shaped to be
releaseably disposed within the lumen of the delivery catheter.
5. The system of claim 4 further comprising a push rod slidably
30 disposed within the lumen of the delivery catheter and being capable of
pushing the girdle out of the delivery catheter.

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6. The system of claim 5 wherein the push rod includes a flexible distal portion.

5 7. The system of claim 4 wherein the girdle has a shape memory of the annular treatment configuration to which the girdle tends to reform after having been deformed to the linear delivery configuration.

10 8. The system of claim 4 wherein the girdle comprises;
an elongate body having first and second ends; and
a locking mechanism for locking the girdle in the annular treatment configuration.

15 9. The system of claim 8 wherein the locking mechanism comprises:
a first hook disposed adjacent the first end; and
a second hook disposed adjacent the second end and adapted for engagement with the first hook.

20 10. The system of claim 8 further comprising:
an elongate tether releasably attached to the girdle.

25 11. The system of claim 8 wherein the elongate body comprises an elastic material.

30 12. The system of claim 8 wherein the locking mechanism comprises:
a lock portion disposed at the first end, the lock portion having a lumen for receiving the second end; and
at least one tooth disposed adjacent the second end and adapted for engagement with the lock portion.

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13. A method for treating a heart valve, the method comprising:
delivering a girdle in a lumen of a catheter adjacent the heart
valve;
5 releasing the girdle; and
encircling a plurality of chordae tendinae of the heart valve with
the girdle.
14. The method of claim 13 wherein delivering the girdle comprises
10 positioning the catheter proximate a plurality of chordae tendinae of the heart
valve.
15. The method of claim 13 wherein delivering the girdle in a lumen
of a catheter comprises inserting the catheter percutaneously.
16. The method of claim 13 wherein the catheter is inserted
percutaneously and advanced transluminally to a left ventricle through an
aortic valve.

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